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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/962,315	10/31/1997	GREGORY HOUSE	067183-0157	8707

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EXAMINER

AN, SHAWN S

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 07/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

08/962,315

Applicant(s)

Gregory House

Examiner

Shawn An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 26, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2, 3, and 5-18 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 3, and 5-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-3 and 5-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auty et al (5,809,161) in view of Applicant's admitted prior art.

**Regarding claims 2-3 and 5-10**, Auty et al discloses a three-dimensional structure estimation apparatus which measures a distance to an object, comprising:

a plurality of cameras (6 and 8) for producing images of the object from different viewing angles (Fig. 3) and having different resolution from each other (Col. 4, lines 48-52); and  
conversion means (Fig. 17) for converting at least one of the images outputted from the plurality of cameras such that pixel units of all images are equal in the amount of object represented thereby (Col. 20, lines 29-67 and Col. 21, lines 1-63).

Auty et al further discloses well known concept of computing a distance to the object (Col. 7, lines 1-39; Col. 21, lines 6-10 and 59-63).

Auty et al does not specifically disclose a depth image production section for comparing the images using triangulation to calculate a distance to the object.

However, Applicant's admitted prior art (Fig. 6) teaches a conventional depth image production section for comparing the images using triangulation (stereo imaging) to calculate a distance to the object.

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Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a three-dimensional structure estimation apparatus as taught by Auty et al to incorporate the conventional depth image production section as taught by Applicant's prior art for comparing the converted images using stereo imaging (triangulation) as an alternative/efficient way calculate the distance to the object.

**Regarding claims 12, 14, 16, and 18,** Auty et al discloses sampling image such that the pixel units of interpolated images represent an amount of object represented by pixel units of an image having a highest resolution (Fig. 1, 6).

**Regarding claims 11, 13, 15, and 17,** since Auty et al discloses sampling image such that the pixel units of interpolated images represent an amount of object represented by pixel units of an image having a highest resolution, it would have been quite obvious to choose sampling image such that the pixel units of interpolated images represent an amount of object represented by pixel units of an image having a lowest resolution just as long as pixel units of all images are equal in the amount of object represented thereby.

***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn An whose telephone number (703) 305-0099 and schedule are Tuesday-Friday.

 SSA  
SHAWN S. AN  
PATENT EXAMINER

July 13, 2003